SEQUENCE LISTING

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<120> NOVEL 13-TRANSMEMBRANE PROTEIN EXPRESSED IN PROSTATE CANCER

<130> 51158-20011.11

<140> US 10/807,635
<141> 2004-03-23

<150> US 10/285,045
<151> 2002-10-30

<150> US 09/547,789
<151> 2000-04-12

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<170> FastSEQ for Windows Version 4.0

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<212> DNA
<213> Homo sapiens

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<221> CDS
<222> (4)...(2136)

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    Met Gly Gly Lys Gln Arg Asp Glu Asp Asp Glu Ala Tyr Gly Lys
     1               5                  10                  15

cca gtc aaa tac gac ccc tcc ttt cga ggc ccc atc aag aac aga agc       96
Pro Val Lys Tyr Asp Pro Ser Phe Arg Gly Pro Ile Lys Asn Arg Ser
                20                  25                  30

tgc aca gat gtc atc tgc tgc gtc ctc ttc ctg ctc ttc att cta ggt      144
Cys Thr Asp Val Ile Cys Cys Val Leu Phe Leu Leu Phe Ile Leu Gly
            35                  40                  45

tac atc gtg gtg ggg att gtg gcc tgg ttg tat gga gac ccc cgg caa      192
Tyr Ile Val Val Gly Ile Val Ala Trp Leu Tyr Gly Asp Pro Arg Gln
        50                  55                  60

gtc ctc tac ccc agg aac tct act ggg gcc tac tgt ggc atg ggg gag      240
Val Leu Tyr Pro Arg Asn Ser Thr Gly Ala Tyr Cys Gly Met Gly Glu
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Asn Lys Asp Lys Pro Tyr Leu Leu Tyr Phe Asn Ile Phe Ser Cys Ile
 80                  85                  90                  95

ctg tcc agc aac atc atc tca gtt gct gag aac ggc cta cag tgc ccc      336
Leu Ser Ser Asn Ile Ile Ser Val Ala Glu Asn Gly Leu Gln Cys Pro
                100                 105                 110

aca ccc cag gtg tgt gtg tcc tcc tgc ccg gag gac cca tgg act gtg      384
Thr Pro Gln Val Cys Val Ser Ser Cys Pro Glu Asp Pro Trp Thr Val
            115                 120                 125

gga aaa aac gag ttc tca cag act gtt ggg gaa gtc ttc tat aca aaa      432
Gly Lys Asn Glu Phe Ser Gln Thr Val Gly Glu Val Phe Tyr Thr Lys
        130                 135                 140

aac agg aac ttt tgt ctg cca ggg gta ccc tgg aat atg acg gtg atc      480
Asn Arg Asn Phe Cys Leu Pro Gly Val Pro Trp Asn Met Thr Val Ile
    145                 150                 155

aca agc ctg caa cag gaa ctc tgc ccc agt ttc ctc ctc ccc tct gct      528
Thr Ser Leu Gln Gln Glu Leu Cys Pro Ser Phe Leu Leu Pro Ser Ala
160                 165                 170                 175

cca gct ctg ggg cgc tgc ttt cca tgg acc aac gtt act cca ccg gcg      576
Pro Ala Leu Gly Arg Cys Phe Pro Trp Thr Asn Val Thr Pro Pro Ala
                180                 185                 190

ctc cca ggg atc acc aat gac acc acc ata cag cag ggg atc agc ggt      624
Leu Pro Gly Ile Thr Asn Asp Thr Thr Ile Gln Gln Gly Ile Ser Gly
            195                 200                 205

ctt att gac agc ctc aat gcc cga gac atc agt gtt aag atc ttt gaa      672
Leu Ile Asp Ser Leu Asn Ala Arg Asp Ile Ser Val Lys Ile Phe Glu
        210                 215                 220

gat ttt gcc cag tcc tgg tat tgg att ctt gtt gcc ctg ggg gtg gct      720
Asp Phe Ala Gln Ser Trp Tyr Trp Ile Leu Val Ala Leu Gly Val Ala
    225                 230                 235

ctg gtc ttg agc cta ctg ttt atc ttg ctt ctg cgc ctg gtg gct ggg      768
Leu Val Leu Ser Leu Leu Phe Ile Leu Leu Leu Arg Leu Val Ala Gly
240                 245                 250                 255

ccc ctg gtg ctg gtg ctg atc ctg gga gtg ctg ggc gtg ctg gca tac      816
Pro Leu Val Leu Val Leu Ile Leu Gly Val Leu Gly Val Leu Ala Tyr
                260                 265                 270

ggc atc tac tac tgc tgg gag gag tac cga gtg ctg cgg gac aag ggc      864
Gly Ile Tyr Tyr Cys Trp Glu Glu Tyr Arg Val Leu Arg Asp Lys Gly
            275                 280                 285

gcc tcc atc tcc cag ctg ggt ttc acc acc aac ctc agt gcc tac cag      912
Ala Ser Ile Ser Gln Leu Gly Phe Thr Thr Asn Leu Ser Ala Tyr Gln
        290                 295                 300

agc gtg cag gag acc tgg ctg gcc gcc ctg atc gtg ttg gcg gtg ctt      960
Ser Val Gln Glu Thr Trp Leu Ala Ala Leu Ile Val Leu Ala Val Leu
```

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    305                 310                 315

gaa gcc atc ctg ctg ctg atg ctc atc ttc ctg cgg cag cgg att cgt     1008
Glu Ala Ile Leu Leu Leu Met Leu Ile Phe Leu Arg Gln Arg Ile Arg
320                 325                 330                 335

att gcc atc gcc ctc ctg aag gag gcc agc aag gct gtg gga cag atg     1056
Ile Ala Ile Ala Leu Leu Lys Glu Ala Ser Lys Ala Val Gly Gln Met
                340                 345                 350

atg tct acc atg ttc tac cca ctg gtc acc ttt gtc ctc ctc ctc atc     1104
Met Ser Thr Met Phe Tyr Pro Leu Val Thr Phe Val Leu Leu Leu Ile
            355                 360                 365

tgc att gcc tac tgg gcc atg act gct ctg tac ctg gct aca tcg ggg     1152
Cys Ile Ala Tyr Trp Ala Met Thr Ala Leu Tyr Leu Ala Thr Ser Gly
        370                 375                 380

caa ccc cag tat gtg ctc tgg gca tcc aac atc agc tcc ccc ggc tgt     1200
Gln Pro Gln Tyr Val Leu Trp Ala Ser Asn Ile Ser Ser Pro Gly Cys
    385                 390                 395

gag aaa gtg cca ata aat aca tca tgc aac ccc acg gcc cac ctt gtg     1248
Glu Lys Val Pro Ile Asn Thr Ser Cys Asn Pro Thr Ala His Leu Val
400                 405                 410                 415

aac tcc tcg tgc cca ggg ctg atg tgc gtc ttc cag ggc tac tca tcc     1296
Asn Ser Ser Cys Pro Gly Leu Met Cys Val Phe Gln Gly Tyr Ser Ser
                420                 425                 430

aaa ggc cta atc caa cgt tct gtc ttc aat ctg caa atc tat ggg gtc     1344
Lys Gly Leu Ile Gln Arg Ser Val Phe Asn Leu Gln Ile Tyr Gly Val
            435                 440                 445

ctg ggg ctc ttc tgg acc ctt aac tgg gta ctg gcc ctg ggc caa tgc     1392
Leu Gly Leu Phe Trp Thr Leu Asn Trp Val Leu Ala Leu Gly Gln Cys
        450                 455                 460

gtc ctc gct gga gcc ttt gcc tcc ttc tac tgg gcc ttc cac aag ccc     1440
Val Leu Ala Gly Ala Phe Ala Ser Phe Tyr Trp Ala Phe His Lys Pro
    465                 470                 475

cag gac atc cct acc ttc ccc tta atc tct gcc ttc atc cgc aca ctc     1488
Gln Asp Ile Pro Thr Phe Pro Leu Ile Ser Ala Phe Ile Arg Thr Leu
480                 485                 490                 495

cgt tac cac act ggg tca ttg gca ttt gga gcc ctc atc ctg acc ctt     1536
Arg Tyr His Thr Gly Ser Leu Ala Phe Gly Ala Leu Ile Leu Thr Leu
                500                 505                 510

gtg cag ata gcc cgg gtc atc ttg gag tat att gac cac aag ctc aga     1584
Val Gln Ile Ala Arg Val Ile Leu Glu Tyr Ile Asp His Lys Leu Arg
            515                 520                 525

gga gtg cag aac cct gta gcc cgc tgc atc atg tgc tgt ttc aag tgc     1632
Gly Val Gln Asn Pro Val Ala Arg Cys Ile Met Cys Cys Phe Lys Cys
        530                 535                 540
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tgc ctc tgg tgt ctg gaa aaa ttt atc aag ttc cta aac cgc aat gca     1680
Cys Leu Trp Cys Leu Glu Lys Phe Ile Lys Phe Leu Asn Arg Asn Ala
    545                 550                 555

tac atc atg atc gcc atc tac ggg aag aat ttc tgt gtc tca gcc aaa     1728
Tyr Ile Met Ile Ala Ile Tyr Gly Lys Asn Phe Cys Val Ser Ala Lys
560                 565                 570                 575

aat gcg ttc atg cta ctc atg cga aac att gtc agg gtg gtc gtc ctg     1776
Asn Ala Phe Met Leu Leu Met Arg Asn Ile Val Arg Val Val Val Leu
                580                 585                 590

gac aaa gtc aca gac ctg ctg ctg ttc ttt ggg aag ctg ctg gtg gtc     1824
Asp Lys Val Thr Asp Leu Leu Leu Phe Phe Gly Lys Leu Leu Val Val
            595                 600                 605

gga ggc gtg ggg gtc ctg tcc ttc ttt ttt ttc tcc ggt cgc atc ccg     1872
Gly Gly Val Gly Val Leu Ser Phe Phe Phe Phe Ser Gly Arg Ile Pro
        610                 615                 620

ggg ctg ggt aaa gac ttt aag agc ccc cac ctc aac tat tac tgg ctg     1920
Gly Leu Gly Lys Asp Phe Lys Ser Pro His Leu Asn Tyr Tyr Trp Leu
    625                 630                 635

ccc atc atg acc tcc atc ctg ggg gcc tat gtc atc gcc agc ggc ttc     1968
Pro Ile Met Thr Ser Ile Leu Gly Ala Tyr Val Ile Ala Ser Gly Phe
640                 645                 650                 655

ttc agc gtt ttc ggc atg tgt gtg gac acg ctc ttc ctc tgc ttc ctg     2016
Phe Ser Val Phe Gly Met Cys Val Asp Thr Leu Phe Leu Cys Phe Leu
                660                 665                 670

gaa gac ctg gag cgg aac aac ggc tcc ctg gac cgg ccc tac tac atg     2064
Glu Asp Leu Glu Arg Asn Asn Gly Ser Leu Asp Arg Pro Tyr Tyr Met
            675                 680                 685

tcc aag agc ctt cta aag att ctg ggc aag aag aac gag gcg ccc ccg     2112
Ser Lys Ser Leu Leu Lys Ile Leu Gly Lys Lys Asn Glu Ala Pro Pro
        690                 695                 700

gac aac aag aag agg aag aag tga cagctccggc cctgatccag gactgcaccc    2166
Asp Asn Lys Lys Arg Lys Lys  *
    705                 710

caccccacc gtccagccat ccaacctcac ttcgccttac aggtctccat tttgtggtaa   2226
aaaaaggttt taggccaggc gccgtggctc acgcctgtaa tccaacactt tgagaggctg   2286
aggcgggcgg atcacctgag tcaggagttc gagaccagcc tggccaacat ggtgaaacct   2346
ccgtctctat taaaaataca aaaattagcc gagagtggtg gcatgcacct gtcatcccag   2406
ctactcggga ggctgaggca ggagaatcgc ttgaacccgg gaggcagagg ttgcagtgag   2466
ccgagatcgc gccactgcac tccaacctgg gtgacagact ctgtctccaa aacaaaacaa   2526
acaaacaaaa agattttatt aaagatattt tgttaactca gtaaaaaaaa aaaaaaaaa    2585
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<210> 2
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<212> PRT
<213> Homo sapiens

<400> 2

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 1               5                  10                  15
Val Lys Tyr Asp Pro Ser Phe Arg Gly Pro Ile Lys Asn Arg Ser Cys
            20                  25                  30
Thr Asp Val Ile Cys Cys Val Leu Phe Leu Leu Phe Ile Leu Gly Tyr
        35                  40                  45
Ile Val Val Gly Ile Val Ala Trp Leu Tyr Gly Asp Pro Arg Gln Val
    50                  55                  60
Leu Tyr Pro Arg Asn Ser Thr Gly Ala Tyr Cys Gly Met Gly Glu Asn
65                  70                  75                  80
Lys Asp Lys Pro Tyr Leu Leu Tyr Phe Asn Ile Phe Ser Cys Ile Leu
                85                  90                  95
Ser Ser Asn Ile Ile Ser Val Ala Glu Asn Gly Leu Gln Cys Pro Thr
            100                 105                 110
Pro Gln Val Cys Val Ser Ser Cys Pro Glu Asp Pro Trp Thr Val Gly
        115                 120                 125
Lys Asn Glu Phe Ser Gln Thr Val Gly Glu Val Phe Tyr Thr Lys Asn
    130                 135                 140
Arg Asn Phe Cys Leu Pro Gly Val Pro Trp Asn Met Thr Val Ile Thr
145                 150                 155                 160
Ser Leu Gln Gln Glu Leu Cys Pro Ser Phe Leu Leu Pro Ser Ala Pro
                165                 170                 175
Ala Leu Gly Arg Cys Phe Pro Trp Thr Asn Val Thr Pro Pro Ala Leu
            180                 185                 190
Pro Gly Ile Thr Asn Asp Thr Thr Ile Gln Gln Gly Ile Ser Gly Leu
        195                 200                 205
Ile Asp Ser Leu Asn Ala Arg Asp Ile Ser Val Lys Ile Phe Glu Asp
    210                 215                 220
Phe Ala Gln Ser Trp Tyr Trp Ile Leu Val Ala Leu Gly Val Ala Leu
225                 230                 235                 240
Val Leu Ser Leu Leu Phe Ile Leu Leu Leu Arg Leu Val Ala Gly Pro
                245                 250                 255
Leu Val Leu Val Leu Ile Leu Gly Val Leu Gly Val Leu Ala Tyr Gly
            260                 265                 270
Ile Tyr Tyr Cys Trp Glu Glu Tyr Arg Val Leu Arg Asp Lys Gly Ala
        275                 280                 285
Ser Ile Ser Gln Leu Gly Phe Thr Thr Asn Leu Ser Ala Tyr Gln Ser
    290                 295                 300
Val Gln Glu Thr Trp Leu Ala Ala Leu Ile Val Leu Ala Val Leu Glu
305                 310                 315                 320
Ala Ile Leu Leu Leu Met Leu Ile Phe Leu Arg Gln Arg Ile Arg Ile
                325                 330                 335
Ala Ile Ala Leu Leu Lys Glu Ala Ser Lys Ala Val Gly Gln Met Met
            340                 345                 350
Ser Thr Met Phe Tyr Pro Leu Val Thr Phe Val Leu Leu Leu Ile Cys
        355                 360                 365
Ile Ala Tyr Trp Ala Met Thr Ala Leu Tyr Leu Ala Thr Ser Gly Gln
    370                 375                 380
Pro Gln Tyr Val Leu Trp Ala Ser Asn Ile Ser Ser Pro Gly Cys Glu
385                 390                 395                 400
Lys Val Pro Ile Asn Thr Ser Cys Asn Pro Thr Ala His Leu Val Asn
                405                 410                 415
Ser Ser Cys Pro Gly Leu Met Cys Val Phe Gln Gly Tyr Ser Ser Lys
            420                 425                 430
Gly Leu Ile Gln Arg Ser Val Phe Asn Leu Gln Ile Tyr Gly Val Leu
```

```
        435                 440                 445
Gly Leu Phe Trp Thr Leu Asn Trp Val Leu Ala Leu Gly Gln Cys Val
    450                 455                 460
Leu Ala Gly Ala Phe Ala Ser Phe Tyr Trp Ala Phe His Lys Pro Gln
465                 470                 475                 480
Asp Ile Pro Thr Phe Pro Leu Ile Ser Ala Phe Ile Arg Thr Leu Arg
                485                 490                 495
Tyr His Thr Gly Ser Leu Ala Phe Gly Ala Leu Ile Leu Thr Leu Val
            500                 505                 510
Gln Ile Ala Arg Val Ile Leu Glu Tyr Ile Asp His Lys Leu Arg Gly
        515                 520                 525
Val Gln Asn Pro Val Ala Arg Cys Ile Met Cys Cys Phe Lys Cys Cys
    530                 535                 540
Leu Trp Cys Leu Glu Lys Phe Ile Lys Phe Leu Asn Arg Asn Ala Tyr
545                 550                 555                 560
Ile Met Ile Ala Ile Tyr Gly Lys Asn Phe Cys Val Ser Ala Lys Asn
                565                 570                 575
Ala Phe Met Leu Leu Met Arg Asn Ile Val Arg Val Val Val Leu Asp
            580                 585                 590
Lys Val Thr Asp Leu Leu Leu Phe Phe Gly Lys Leu Leu Val Val Gly
        595                 600                 605
Gly Val Gly Val Leu Ser Phe Phe Phe Phe Ser Gly Arg Ile Pro Gly
    610                 615                 620
Leu Gly Lys Asp Phe Lys Ser Pro His Leu Asn Tyr Tyr Trp Leu Pro
625                 630                 635                 640
Ile Met Thr Ser Ile Leu Gly Ala Tyr Val Ile Ala Ser Gly Phe Phe
                645                 650                 655
Ser Val Phe Gly Met Cys Val Asp Thr Leu Phe Leu Cys Phe Leu Glu
            660                 665                 670
Asp Leu Glu Arg Asn Asn Gly Ser Leu Asp Arg Pro Tyr Tyr Met Ser
        675                 680                 685
Lys Ser Leu Leu Lys Ile Leu Gly Lys Lys Asn Glu Ala Pro Pro Asp
    690                 695                 700
Asn Lys Lys Arg Lys Lys
705                 710
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<210> 3
<211> 160
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (1)...(160)

<400> 3

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gat cag ggc ggc cag cca ggt ctc ctg cac gct ctg gta ggc act gag       48
Asp Gln Gly Gly Gln Pro Gly Leu Leu His Ala Leu Val Gly Thr Glu
 1               5                  10                  15

gtt ggt ggt gaa acc cag ctg gga gat gga ggc gcc ctc gtc ccg cag       96
Val Gly Gly Glu Thr Gln Leu Gly Asp Gly Gly Ala Leu Val Pro Gln
             20                  25                  30

cac tcg gta ctc ctc cca gca gta gta gat gcc ata tgc cag cac gcc      144
His Ser Val Leu Leu Pro Ala Val Val Asp Ala Ile Cys Gln His Ala
         35                  40                  45
```

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cag cac tcc cag gat c                                                  160
Gln His Ser Gln Asp
     50


<210> 4
<211> 53
<212> PRT
<213> Homo sapiens

<400> 4
Asp Gln Gly Gly Gln Pro Gly Leu Leu His Ala Leu Val Gly Thr Glu
 1               5                  10                  15
Val Gly Gly Glu Thr Gln Leu Gly Asp Gly Gly Ala Leu Val Pro Gln
            20                  25                  30
His Ser Val Leu Leu Pro Ala Val Val Asp Ala Ile Cys Gln His Ala
        35                  40                  45
Gln His Ser Gln Asp
    50

<210> 5
<211> 705
<212> PRT
<213> Mouse

<400> 5
Arg Lys Gln Asn Glu Asn Glu Ala His Gly Asn Ser Ala Lys Tyr Asp
 1               5                  10                  15
Pro Ser Phe Arg Gly Pro Ile Lys Asn Arg Gly Cys Thr Asp Ile Ile
            20                  25                  30
Cys Cys Val Leu Phe Leu Ile Phe Ile Leu Gly Tyr Ile Ile Val Gly
        35                  40                  45
Leu Val Ala Trp Val Tyr Gly Asp Pro Arg Gln Val Leu Tyr Pro Arg
    50                  55                  60
Asn Ser Thr Gly Ala Tyr Cys Gly Val Gly Asp Asn Lys Asp Lys Pro
65                  70                  75                  80
Tyr Val Leu Tyr Phe Asp Ile Leu Ser Cys Ala Ala Ala Ile Asn Ile
                85                  90                  95
Ile Ser Ile Ala Glu Asn Gly Leu Gln Cys Pro Thr Pro Gln Val Cys
            100                 105                 110
Val Ser Ser Cys Pro Leu Ala Pro Trp Ala Val Glu Val Phe Gln Phe
        115                 120                 125
Ser Lys Thr Val Gly Glu Val Tyr Gly Glu Arg Arg Asn Phe Cys Leu
    130                 135                 140
Pro Ala Val Ser Pro Asp Met Ile Val Glu Glu Ser Leu Gln Lys Gly
145                 150                 155                 160
Leu Cys Pro Arg Phe Leu Leu Pro Ser Thr Pro Ala Leu Gly Arg Cys
                165                 170                 175
Phe Pro Leu Pro Asn Ile Asn Phe Thr Leu Pro Glu Asp Leu Arg Ile
            180                 185                 190
Asn Asn Thr Thr Val Ser Asn Gly Ile Ser Gly Leu Leu Asp Ser Ile
        195                 200                 205
Asn Ala Arg Asp Val Ser Val Lys Ile Phe Glu Asp Phe Ala Gln Ser
    210                 215                 220
Trp Tyr Trp Ile Leu Val Ala Leu Gly Val Ala Leu Ala Leu Ser Leu
225                 230                 235                 240
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```
Leu Phe Ile Leu Leu Leu Arg Leu Val Ala Ala Pro Leu Val Leu Leu
                245                 250                 255
Leu Ile Val Gly Val Leu Ala Val Leu Ala Tyr Gly Ile Tyr His Cys
            260                 265                 270
Trp Gln Gln Tyr Gln Val Phe Arg Asp Lys Gly Ala Ser Ile Thr Gln
        275                 280                 285
Leu Gly Phe Thr Thr Asn Phe Ser Ala Tyr Gln Ser Val Lys Glu Thr
    290                 295                 300
Trp Leu Ala Ala Leu Ile Val Leu Ala Val Leu Glu Gly Ile Leu Leu
305                 310                 315                 320
Leu Met Leu Ile Phe Leu Arg Gln Arg Ile Arg Ile Ala Ile Ala Leu
                325                 330                 335
Leu Lys Glu Ala Ser Arg Ala Val Gly Gln Met Met Ser Thr Met Phe
            340                 345                 350
Tyr Pro Leu Val Thr Phe Val Leu Leu Val Ile Cys Ile Gly Tyr Trp
        355                 360                 365
Ala Val Thr Ala Leu Tyr Leu Ala Thr Ser Gly Gln Pro Gln Tyr Ile
    370                 375                 380
Tyr Trp Ala Ser Asn Thr Ser Thr Pro Gly Cys Glu Asn Val Pro Val
385                 390                 395                 400
Asn Met Thr Cys Asp Pro Met Ala Pro Leu Asn Ser Ser Cys Pro Asn
                405                 410                 415
Leu Lys Cys Val Phe Lys Gly Tyr Ser Thr Thr Gly Leu Ala Gln Arg
            420                 425                 430
Ser Leu Phe Asn Leu Gln Ile Tyr Gly Val Leu Gly Leu Phe Trp Thr
        435                 440                 445
Val Asn Trp Val Leu Ala Leu Gly Gln Cys Val Leu Ala Gly Ala Phe
    450                 455                 460
Ala Ser Phe Tyr Trp Ala Phe His Lys Pro Arg Asp Ile Pro Thr Phe
465                 470                 475                 480
Pro Leu Ser Ser Ala Phe Ile Arg Thr Leu Arg Tyr His Thr Gly Ser
                485                 490                 495
Leu Ala Phe Gly Ala Leu Ile Leu Ser Leu Val Gln Ile Ala Arg Val
            500                 505                 510
Ile Leu Glu Tyr Ile Asp His Lys Leu Arg Gly Ser Gln Asn Pro Val
        515                 520                 525
Ala Arg Cys Ile Ile Cys Cys Phe Lys Cys Cys Leu Trp Cys Leu Glu
    530                 535                 540
Lys Phe Ile Lys Phe Leu Asn Arg Asn Ala Tyr Ile Met Ile Ala Ile
545                 550                 555                 560
Tyr Gly Lys Asn Phe Cys Val Ser Ala Lys Asn Ala Phe Met Leu Leu
                565                 570                 575
Met Arg Asn Val Leu Arg Val Val Val Leu Asp Lys Val Thr Asp Leu
            580                 585                 590
Leu Leu Phe Phe Gly Lys Leu Leu Val Val Gly Gly Val Gly Val Leu
        595                 600                 605
Ser Phe Phe Phe Phe Ser Gly Arg Ile Lys Gly Leu Gly Lys Asp Phe
    610                 615                 620
Glu Asn Pro Asn Leu Asn Tyr Tyr Trp Leu Pro Ile Met Thr Ser Ile
625                 630                 635                 640
Met Gly Ala Tyr Val Ile Ala Ser Gly Phe Phe Ser Val Phe Gly Met
                645                 650                 655
Cys Val Asp Thr Leu Phe Leu Cys Phe Leu Glu Asp Leu Glu Arg Asn
            660                 665                 670
Asp Gly Ser Gln Glu Arg Pro Tyr Tyr Met Pro Lys Ala Leu Leu Lys
        675                 680                 685
Ile Leu Gly Lys Lys Asn Glu Ala Pro Thr Gly Gly Lys Thr Arg Lys
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    690                 695                 700
Lys
705

<210> 6
<211> 2737
<212> DNA
<213> Homo sapiens

<220>
<221> CDS
<222> (58)...(2172)

<400> 6
gcccgcccgg gctggggtcg cgctggctcg gactccgctc cccgccccgc cgcggcc atg     60
                                                              Met
                                                               1

gag gac gag cgg aaa aac gga gcc tac gga acg cca cag aag tat gat      108
Glu Asp Glu Arg Lys Asn Gly Ala Tyr Gly Thr Pro Gln Lys Tyr Asp
            5                  10                  15

ccc act ttc aaa gga ccc att tac aat agg ggc tgc acg gat atc ata      156
Pro Thr Phe Lys Gly Pro Ile Tyr Asn Arg Gly Cys Thr Asp Ile Ile
        20                  25                  30

tgc tgt gtg ttc ctg ctc ctg gcc att gtg ggc tac gtg gct gta ggc      204
Cys Cys Val Phe Leu Leu Leu Ala Ile Val Gly Tyr Val Ala Val Gly
    35                  40                  45

atc ata gcc tgg act cat gga gac cct cga aag gtg atc tac ccc act      252
Ile Ile Ala Trp Thr His Gly Asp Pro Arg Lys Val Ile Tyr Pro Thr
50                  55                  60                  65

gat agc cgg ggc gag ttc tgc ggg cag aag ggc aca aaa aac gag aac      300
Asp Ser Arg Gly Glu Phe Cys Gly Gln Lys Gly Thr Lys Asn Glu Asn
                70                  75                  80

aaa ccc tat ctg ttt tat ttc aac att gtg aaa tgt gcc agc ccc ctg      348
Lys Pro Tyr Leu Phe Tyr Phe Asn Ile Val Lys Cys Ala Ser Pro Leu
            85                  90                  95

gtt ctg ctg gaa ttc caa tgt ccc act ccc cag atc tgc gtg gaa aaa      396
Val Leu Leu Glu Phe Gln Cys Pro Thr Pro Gln Ile Cys Val Glu Lys
        100                 105                 110

tgc ccc gac cgc tac ctc acg tac ctg aat gct cgc agc tcc cgg gac      444
Cys Pro Asp Arg Tyr Leu Thr Tyr Leu Asn Ala Arg Ser Ser Arg Asp
    115                 120                 125

ttt gag tac tat aag cag ttc tgt gtt cct ggc ttc aag aac aat aaa      492
Phe Glu Tyr Tyr Lys Gln Phe Cys Val Pro Gly Phe Lys Asn Asn Lys
130                 135                 140                 145

gga gtg gct gag gtg ctt cga gat ggt gac tgc cct gct gtc ctc atc      540
Gly Val Ala Glu Val Leu Arg Asp Gly Asp Cys Pro Ala Val Leu Ile
                150                 155                 160
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ccc agc aaa ccc ttg gcc cgg aga tgc ttc ccc gct atc cac gcc tac      588
Pro Ser Lys Pro Leu Ala Arg Arg Cys Phe Pro Ala Ile His Ala Tyr
            165                 170                 175

aag ggt gtc ctg atg gtg ggc aat gag acg acc tat gag gat ggg cat      636
Lys Gly Val Leu Met Val Gly Asn Glu Thr Thr Tyr Glu Asp Gly His
        180                 185                 190

ggc tcc cgg aaa aac atc aca gac ctg gtg gag ggc gcc aag aaa gcc      684
Gly Ser Arg Lys Asn Ile Thr Asp Leu Val Glu Gly Ala Lys Lys Ala
    195                 200                 205

aat gga gtc cta gag gcg cgg caa ctc gcc atg cgc ata ttt gaa gat      732
Asn Gly Val Leu Glu Ala Arg Gln Leu Ala Met Arg Ile Phe Glu Asp
210                 215                 220                 225

tac acc gtc tct tgg tac tgg att atc ata ggc ctg gtc att gcc atg      780
Tyr Thr Val Ser Trp Tyr Trp Ile Ile Ile Gly Leu Val Ile Ala Met
                230                 235                 240

gcg atg agc ctc ctg ttc atc atc ctg ctt cgc ttc ctg gct ggt att      828
Ala Met Ser Leu Leu Phe Ile Ile Leu Leu Arg Phe Leu Ala Gly Ile
            245                 250                 255

atg gtc tgg gtg atg atc atc atg gtg att ctg gtg ctg ggc tac gga      876
Met Val Trp Val Met Ile Ile Met Val Ile Leu Val Leu Gly Tyr Gly
        260                 265                 270

ata ttt cac tgc tac atg gag tac tcc cga ctg cgt ggt gag gcc ggc      924
Ile Phe His Cys Tyr Met Glu Tyr Ser Arg Leu Arg Gly Glu Ala Gly
    275                 280                 285

tct gat gtc tct ttg gtg gac ctc ggc ttt cag acg gat ttc cgg gtg      972
Ser Asp Val Ser Leu Val Asp Leu Gly Phe Gln Thr Asp Phe Arg Val
290                 295                 300                 305

tac ctg cac tta cgg cag acc tgg ttg gcc ttt atg atc att ctg agt     1020
Tyr Leu His Leu Arg Gln Thr Trp Leu Ala Phe Met Ile Ile Leu Ser
                310                 315                 320

atc ctt gaa gtc att atc atc ttg ctg ctc atc ttt ctc cgg aag aga     1068
Ile Leu Glu Val Ile Ile Ile Leu Leu Leu Ile Phe Leu Arg Lys Arg
            325                 330                 335

att ctc atc gcg att gca ctc atc aaa gaa gcc agc agg gct gtg gga     1116
Ile Leu Ile Ala Ile Ala Leu Ile Lys Glu Ala Ser Arg Ala Val Gly
        340                 345                 350

tac gtc atg tgc tcc ttg ctc tac cca ctg gtc acc ttc ttc ttg ctg     1164
Tyr Val Met Cys Ser Leu Leu Tyr Pro Leu Val Thr Phe Phe Leu Leu
    355                 360                 365

tgc ctc tgc atc gcc tac tgg gcc agc act gct gtc ttc ctg tcc act     1212
Cys Leu Cys Ile Ala Tyr Trp Ala Ser Thr Ala Val Phe Leu Ser Thr
370                 375                 380                 385
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tcc aac gaa gcg gtc tat aag atc ttt gat gac agc ccc tgc cca ttt     1260
Ser Asn Glu Ala Val Tyr Lys Ile Phe Asp Asp Ser Pro Cys Pro Phe
                390                 395                 400

act gcg aaa acc tgc aac cca gag acc ttc ccc tcc tcc cat gag tcc     1308
Thr Ala Lys Thr Cys Asn Pro Glu Thr Phe Pro Ser Ser His Glu Ser
            405                 410                 415

cgc caa tgc ccc aat gcc cgt tgc cag ttc gtc ttc tac ggt ggt gag     1356
Arg Gln Cys Pro Asn Ala Arg Cys Gln Phe Val Phe Tyr Gly Gly Glu
        420                 425                 430

tcg ggc tac cac cgg gcc ctg ctg ggc ctg cag atc ttc aat gcc ttc     1404
Ser Gly Tyr His Arg Ala Leu Leu Gly Leu Gln Ile Phe Asn Ala Phe
    435                 440                 445

atg ttc ttc tgg ttg gcc aac ttc gtg ctg gcg ctg ggc cag gtc acg     1452
Met Phe Phe Trp Leu Ala Asn Phe Val Leu Ala Leu Gly Gln Val Thr
450                 455                 460                 465

ctg gcc ggg gcc ttt gcc tcc tac tac tgg gcc ctg cgc aag ccg gac     1500
Leu Ala Gly Ala Phe Ala Ser Tyr Tyr Trp Ala Leu Arg Lys Pro Asp
                470                 475                 480

gac ctg ccg gcc ttc ccg ctc ttc tct gcc ttt ggc cgg gcg ctc agg     1548
Asp Leu Pro Ala Phe Pro Leu Phe Ser Ala Phe Gly Arg Ala Leu Arg
            485                 490                 495

tac cac aca ggc tcc ctg gcc ttt ggc gcg ctc atc ctg gcc att gtg     1596
Tyr His Thr Gly Ser Leu Ala Phe Gly Ala Leu Ile Leu Ala Ile Val
        500                 505                 510

cag atc atc cgt gtg ata ctc gag tac ctg gat cag cgg ctg aaa gct     1644
Gln Ile Ile Arg Val Ile Leu Glu Tyr Leu Asp Gln Arg Leu Lys Ala
    515                 520                 525

gca gag aac aag ttt gcc aag tgc ctc atg acc tgt ctc aaa tgc tgc     1692
Ala Glu Asn Lys Phe Ala Lys Cys Leu Met Thr Cys Leu Lys Cys Cys
530                 535                 540                 545

ttc tgg tgc ctg gag aag ttc atc aaa ttc ctt aat agg aat gcc tac     1740
Phe Trp Cys Leu Glu Lys Phe Ile Lys Phe Leu Asn Arg Asn Ala Tyr
                550                 555                 560

atc atg att gcc atc tac ggc acc aat ttc tgc acc tcg gcc agg aat     1788
Ile Met Ile Ala Ile Tyr Gly Thr Asn Phe Cys Thr Ser Ala Arg Asn
            565                 570                 575

gcc ttc ttc ctg ctc atg aga aac atc atc aga gtg gct gtc ctg gat     1836
Ala Phe Phe Leu Leu Met Arg Asn Ile Ile Arg Val Ala Val Leu Asp
        580                 585                 590

aaa gtt act gac ttc ctc ttc ctg ttg ggc aaa ctt ctg atc gtt ggt     1884
Lys Val Thr Asp Phe Leu Phe Leu Leu Gly Lys Leu Leu Ile Val Gly
    595                 600                 605

agt gtg ggg atc ctg gct ttc ttc ttc ttc acc cac cgt atc agg atc     1932
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Ser Val Gly Ile Leu Ala Phe Phe Phe Phe Thr His Arg Ile Arg Ile
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gtg cag gat aca gca cca ccc ctc aat tat tac tgg gtt cct ata ctg     1980
Val Gln Asp Thr Ala Pro Pro Leu Asn Tyr Tyr Trp Val Pro Ile Leu
                630                 635                 640

acg gtg atc gtt ggc tcc tac ttg att gca cac ggt ttc ttc agc gtc     2028
Thr Val Ile Val Gly Ser Tyr Leu Ile Ala His Gly Phe Phe Ser Val
            645                 650                 655

tat ggc atg tgt gtg gac acg ctg ttc ctc tgc ttc ttg gag gac ctg     2076
Tyr Gly Met Cys Val Asp Thr Leu Phe Leu Cys Phe Leu Glu Asp Leu
        660                 665                 670

gag agg aat gac ggc tcg gcc gag agg cct tac ttc atg tct tcc acc     2124
Glu Arg Asn Asp Gly Ser Ala Glu Arg Pro Tyr Phe Met Ser Ser Thr
    675                 680                 685

ctc aag aaa ctc ttg aac aag acc aac aag aag gca gcg gag tcc tga     2172
Leu Lys Lys Leu Leu Asn Lys Thr Asn Lys Lys Ala Ala Glu Ser  *
690                 695                 700

aggccccgtg ctccccacct ctcaaggagt ctcatgccgc agggtgctca gtagctgggt   2232
ctgttccccc agccccttgg gctcacctga agtcctatca ctgccgctct gcccctcccc   2292
atgagccaga tcccaccagt ttctggacgt ggagagtctg gggcatctcc ttcttatgcc   2352
aaggggcgct tggagttttc atggctgccc ctccagactg cgagaaacaa gtaaaaaccc   2412
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gagggagctg ctggccacag tgaacaccca cgtttattcc tgcctgctcc ggccaggact   2592
gaacccttc tccacacctg aacagttggc tcaagggcca ccagaagcat ttctttatta   2652
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        35                  40                  45
Gly Ile Ile Ala Trp Thr His Gly Asp Pro Arg Lys Val Ile Tyr Pro
    50                  55                  60
Thr Asp Ser Arg Gly Glu Phe Cys Gly Gln Lys Gly Thr Lys Asn Glu
65                  70                  75                  80
Asn Lys Pro Tyr Leu Phe Tyr Phe Asn Ile Val Lys Cys Ala Ser Pro
                85                  90                  95
Leu Val Leu Leu Glu Phe Gln Cys Pro Thr Pro Gln Ile Cys Val Glu
            100                 105                 110
Lys Cys Pro Asp Arg Tyr Leu Thr Tyr Leu Asn Ala Arg Ser Ser Arg
        115                 120                 125
Asp Phe Glu Tyr Tyr Lys Gln Phe Cys Val Pro Gly Phe Lys Asn Asn
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    130                 135                 140
Lys Gly Val Ala Glu Val Leu Arg Asp Gly Asp Cys Pro Ala Val Leu
145                 150                 155                 160
Ile Pro Ser Lys Pro Leu Ala Arg Arg Cys Phe Pro Ala Ile His Ala
                165                 170                 175
Tyr Lys Gly Val Leu Met Val Gly Asn Glu Thr Thr Tyr Glu Asp Gly
            180                 185                 190
His Gly Ser Arg Lys Asn Ile Thr Asp Leu Val Glu Gly Ala Lys Lys
        195                 200                 205
Ala Asn Gly Val Leu Glu Ala Arg Gln Leu Ala Met Arg Ile Phe Glu
    210                 215                 220
Asp Tyr Thr Val Ser Trp Tyr Trp Ile Ile Ile Gly Leu Val Ile Ala
225                 230                 235                 240
Met Ala Met Ser Leu Leu Phe Ile Ile Leu Leu Arg Phe Leu Ala Gly
                245                 250                 255
Ile Met Val Trp Val Met Ile Ile Met Val Ile Leu Val Leu Gly Tyr
            260                 265                 270
Gly Ile Phe His Cys Tyr Met Glu Tyr Ser Arg Leu Arg Gly Glu Ala
        275                 280                 285
Gly Ser Asp Val Ser Leu Val Asp Leu Gly Phe Gln Thr Asp Phe Arg
    290                 295                 300
Val Tyr Leu His Leu Arg Gln Thr Trp Leu Ala Phe Met Ile Ile Leu
305                 310                 315                 320
Ser Ile Leu Glu Val Ile Ile Ile Leu Leu Leu Ile Phe Leu Arg Lys
                325                 330                 335
Arg Ile Leu Ile Ala Ile Ala Leu Ile Lys Glu Ala Ser Arg Ala Val
            340                 345                 350
Gly Tyr Val Met Cys Ser Leu Leu Tyr Pro Leu Val Thr Phe Phe Leu
        355                 360                 365
Leu Cys Leu Cys Ile Ala Tyr Trp Ala Ser Thr Ala Val Phe Leu Ser
    370                 375                 380
Thr Ser Asn Glu Ala Val Tyr Lys Ile Phe Asp Asp Ser Pro Cys Pro
385                 390                 395                 400
Phe Thr Ala Lys Thr Cys Asn Pro Glu Thr Phe Pro Ser Ser His Glu
                405                 410                 415
Ser Arg Gln Cys Pro Asn Ala Arg Cys Gln Phe Val Phe Tyr Gly Gly
            420                 425                 430
Glu Ser Gly Tyr His Arg Ala Leu Leu Gly Leu Gln Ile Phe Asn Ala
        435                 440                 445
Phe Met Phe Phe Trp Leu Ala Asn Phe Val Leu Ala Leu Gly Gln Val
    450                 455                 460
Thr Leu Ala Gly Ala Phe Ala Ser Tyr Tyr Trp Ala Leu Arg Lys Pro
465                 470                 475                 480
Asp Asp Leu Pro Ala Phe Pro Leu Phe Ser Ala Phe Gly Arg Ala Leu
                485                 490                 495
Arg Tyr His Thr Gly Ser Leu Ala Phe Gly Ala Leu Ile Leu Ala Ile
            500                 505                 510
Val Gln Ile Ile Arg Val Ile Leu Glu Tyr Leu Asp Gln Arg Leu Lys
        515                 520                 525
Ala Ala Glu Asn Lys Phe Ala Lys Cys Leu Met Thr Cys Leu Lys Cys
    530                 535                 540
Cys Phe Trp Cys Leu Glu Lys Phe Ile Lys Phe Leu Asn Arg Asn Ala
545                 550                 555                 560
Tyr Ile Met Ile Ala Ile Tyr Gly Thr Asn Phe Cys Thr Ser Ala Arg
                565                 570                 575
Asn Ala Phe Phe Leu Leu Met Arg Asn Ile Ile Arg Val Ala Val Leu
            580                 585                 590
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Asp Lys Val Thr Asp Phe Leu Phe Leu Leu Gly Lys Leu Leu Ile Val
        595                 600                 605
Gly Ser Val Gly Ile Leu Ala Phe Phe Phe Phe Thr His Arg Ile Arg
    610                 615                 620
Ile Val Gln Asp Thr Ala Pro Pro Leu Asn Tyr Tyr Trp Val Pro Ile
625                 630                 635                 640
Leu Thr Val Ile Val Gly Ser Tyr Leu Ile Ala His Gly Phe Phe Ser
                645                 650                 655
Val Tyr Gly Met Cys Val Asp Thr Leu Phe Leu Cys Phe Leu Glu Asp
            660                 665                 670
Leu Glu Arg Asn Asp Gly Ser Ala Glu Arg Pro Tyr Phe Met Ser Ser
        675                 680                 685
Thr Leu Lys Lys Leu Leu Asn Lys Thr Asn Lys Lys Ala Ala Glu Ser
    690                 695                 700

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